HISTORY OF THE U-2

The design of the U-2 was first brought to the Air Force in March 1954 by Clarence L. (Kelly) Johnson, a Lockheed Corporation Vice-President. In December 1953, Johnson had began an investigation of the possibility of increasing the performance of his F-104 jet so as to gain maximum altitude and range for reconnaissance purposes. He decided quickly that an entirely new type of aircraft would have to be built. His central concept was to put a jet engine inside a glider, wrapping more airframe around the power plant than it was supposed to carry. Then the huge glider wings would support the whole weight of the aircraft and it could still be very light. It would not suffer the restrictions of ordinary jets, which cannot maintain extremely high altitudes because of their wing loadings. At the same time it could achieve an extraordinary range, flying for great distances, engine idling, conserving fuel.

Although funds for Johnson's then radical aircraft design were turned down in the summer of 1954 by the Air Force, (Vuegraph 4-0275) he was called back to Washington in November 1954 and questioned in greater detail by Trevor Gardner, technical advisor to the Air Force on research and development, Allen Dulles, head of the CIA and Richard Bissell, a top-level advisor to Dulles. These three men were particularly intrigued by Kelly Johnson's first goal - a plane that could fly at 70,000 feet. The top operating altitude

for aircraft at that time was 50,000 feet. The British had just set a world's record - 54,000 feet on a zoom-up. Gardner, Dulles and Bissell quickly realized that at 70,000 feet the U-2 would be immune from attack if it overflew the Soviet Union. Johnson was thus given the go ahead to build his plane in December 1954. Despite numerous setbacks Johnson was able to turn out his first U-2, eight months later, in August 1955 at a cost of [redacted] 25X1A

This first aircraft (vuegraph) was designated U (for Utility) 2 and was a single-seat plane powered by one Pratt and Whitney J57C turbine. It had a maximum speed of [redacted] at 40,000 feet altitude. The U-2's operational ceiling was [redacted] 70,000 feet and its range was approximately 2200 statute miles. The aircraft had a wing span of 80 feet 0 inches and a length of 49 feet 7 inches. 25X1 25X1

The first cameras installed in the U-2 were known as the A Configuration (vuegraph) - a trimetrogon mode with one prime vertical and two oblique cameras. A later adaptation, the B Configuration, consisted of one camera with a rotating mirror which provided coverage from horizon to horizon. The U-2 also carried [redacted] The CIA version of the aircraft was painted with black (anti-radar sensing paint) and bore no markings. 25X1

The first overflight of the USSR and the East European Satellite Nations occurred in July 1956. Although the aircraft flew directly over the heart of Moscow, the city was unfortunately

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partially cloud-covered. One of the intelligence highlights from this mission was the coverage (vuegraph) L-0347 & L-0276 of this military airbase at Powidz, Poland.

These overflights which continued for approximately four years provided the first photographic coverage of such significant targets as:

a. (Vuegraph) L-0277 The Tyura Tam Missile Test Center - the Soviet "Cape Canaveral" where test firings of intercontinental ballistic missiles and all subsequent cosmonaut launchings took place.

b. (Vuegraph) L-0280 Kapustin Yar Missile Test Center - early testing of surface to air missiles and intermediate range ballistic missiles occurred here. (Vuegraph) L-0281

c. (Vuegraph) L-0278 Nuclear production facilities - this particular vuegraph shows the nuclear reactor site at Tomsk.

d. (Vuegraph) L-0279 Long-range bomber bases - in this particular case, Engels Airfield.

The primary value of these flights was that they provided the U.S. Intelligence Community, and the President of the United States, with firm evidence of the Soviet military might.

Although the U-2 missions were primarily directed against the Soviet Union, the aircraft did play a significant role in gathering intelligence data in other parts of the world during various crisis situations.

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The first critical problem area in which the U-2 was employed was at Suez in the summer of 1956.

In the latter half of July 1956, Colonel Abdel Nasser was denied economic assistance for his Aswan Dam by the United States, the United Kingdom and other international lending institutions. To this rebuff from the West, Nasser replied by announcing on 26 July, that the Egyptian government had nationalized the Suez Canal Company and would use the annual revenue from the canal to build the dam. Relations between Egypt and the U.K., France and Israel steadily deteriorated.

25X1

[redacted]

X6

[redacted]

1D

The next significant situation in which the U-2 was employed occurred in the summer of 1958. On 15 July 1958 U.S. Marines

were landed in Lebanon to honor formal requests by President Camille Chamoun for armed assistance against Moslem rebels supported by the United Arab Republic. The landings were ordered by President Eisenhower after Iraqi army offiers had overthrown the pro-western monarchy of King Faisal II on 14 July and had proclaimed a republic friendly to the U.A.R.

Middle Eastern U-2 missions had been flown periodically since the Suez crisis in 1956. During the three months period that U.S. troops were in Lebanon, however, 36 missions were flown. Surveillance on several Middle Eastern countries for possible armed intervention was maintained. Special emphasis was placed on airfields and army camps of those countries which were receiving Soviet military materials. Areas photographed included:

a. (Vuegraph) Hamah Airfield, Syria L-0249 & L-0286
b. (Vuegraph) Beirut International Airport, Lebanon L-0297
c. (Vuegraph) Dimashq Army Barracks and Ammo Depot L-0287

Qatana, Syria.

Through this photography and other sources of intelligence, it was possible to determine that the tactical situation had stabilized sufficiently enough to allow the U.S. Marines to leave Lebanon in October 1958.

add During this Time period the U-2 was also active overflying Indonesia when the country was fighting a civil war and U.S. policy was in question about whom to support.

The next critical, tactical situation in which the U-2 was employed occurred in the summer of 1958. At this time there was increased Chicom military activity in the Formosa Straits area. Between 11 August and 24 October 1958, the Chinese Communists heavily shelled the Nationalist-held offshore islands of Quemoy and Matsu. During this period, there were repeated clashes between the Chinese Nationalist and Chicom Air Forces. Also sporadic naval skirmishes took place near the offshore islands.

U-2 missions were flown on 20 August during the height of the bombardment of Quemoy and Matsu. The missions were followed by three others which covered the China coast and inland areas from Shanghai to Canton.

The photography revealed that while air activity was high, (vuegraph)-Chang-Chou Airfield, there was little activity in the ports and harbor areas along the China coast. (Vuegraph)-Kiangnan Naval Dockyard, (Vuegraph)- Amoy Island. Analysts were able to determine from this photography that there was no imminent preparation for an invasion of Formosa.

The U-2 was again pressed into service shortly after the Tibetan revolt against Chinese Communist rule was crushed on 13-27 March 1959. Border skirmishes between the Indians and the Chinese Communists were occurring frequently as hundreds of

Tibetan refugees, including the Dalai Lama, began crossing into India.

1st U2 over Tibet was 21 Aug 59

~~The~~ (first) U-2 mission was flown over Tibet in May 1959. ~~Nine~~ many subsequent missions were flown, the latest being in the ~~fall of 1962~~ Dec 1964. Photography revealed the construction of two airfields with runways over 13,000 feet long at elevations of over 13,000 feet (vuegraph L-0283). One of these airfields was at La-Sa? Photography also depicted new road construction with supply and defense points dispersed along side. (Vuegraph L-0282)- Hsi-Ning/La-Sa Road?

one known test base?

In general, this photography provided the Intelligence Community with current, factual information of a most inaccessible area and dramatically showed the changes effected by the Chinese Communists in their first 10 years of occupation.

Certainly the most publicized flight of a U-2 aircraft took place on 1 May 1960, when Francis Gary Powers, a CIA pilot, was shot down near Sverdlovsk in the USSR. When the U-2 had first begun flights over the Soviet Union almost four years earlier, it was estimated by U.S. Air Force experts that the operation would be able to last only 12-18 months. These experts felt that within that time the Soviets could develop an effective countering weapon, either in the form of a surface-to-air missile or a high-altitude supersonic fighter. However, even after four years of overflights by the U-2, it took a peculiar set

of circumstances for the Soviets to down the plane. A combination of events--a flame-out by the U-2 and/or a near miss by an SA-2 missile--were responsible for the crash of Powers' aircraft. The plane due to its glider-like characteristics crashed almost intact. (Vuegraph) L-0289 + L-0290 The next two vuegraphs show the wreckage of the U-2 on display in Gorkiy Park, a suburb of Moscow.

Shortly after the crash, which resulted in the cancellation of the scheduled Summit Conference and the trial and imprisonment of Powers, President Eisenhower went on nationwide television and showed this photograph (vuegraph) L-0285 of the San Diego Naval Air Station in California. This was the first photograph taken by the U-2 to be shown to the public. Probably the most important result of the entire Powers' incident, however, was President Eisenhower's statement that no United States aircraft would again deliberately violate Soviet air space. This did not limit the usefulness of the U-2 in other parts of the world, however.

The United States had been maintaining routine photographic surveillance of Cuba (since / before) the Bay of Pigs operation in April 1961. This surveillance was stepped up considerably when SA-2 sites under construction were discovered in the summer of 1962. Perhaps the most historic flight of the U-2 occurred on 14 October 1962 (Vuegraph). L-0282 + L-0284 Photography of an area near San Cristobal revealed for the first time that the Soviets were introducing medium range ballistic missiles into Cuba. Numerous defector reports had indicated the introduction of these weapons but this U-2 mission for the first time gave

President Kennedy the certain proof he needed to take appropriate action. President Kennedy went before nationwide television and announced his decision to blockade Cuba. After considerable consternation in Moscow and obvious resentment in Havana, the missiles were withdrawn. (Vuegraph) 2-0343 This low-level photography shows some of the MRBM's being loaded aboard Soviet merchant vessels at Mariel. Thus, the U-2 had once again proved its worth as a reconnaissance vehicle.

As previously described, U-2 photography enabled as an assessment to be made of the Chicom military buildup during the Taiwan Straits incident of 1958 and again during the Sino-Indian border clashes in March 1959. In addition to this, one of the most highly significant intelligence items found in China as a direct result of U-2 photography was the [redacted] 25X1D

[redacted] 25X1D

More recently the U-2 has provided intelligence data on Chicom activity in the South China area. Significant items include:

a. Five new airfields under construction - (vuegraph) L-0295 - This is the airfield under construction at Ning-Ming.

b. Several airfields where high-performance aircraft have been deployed - (vuegraph) L-0297 - This is Lei Yang Airfield where (36) thirty-six FARMER aircraft can be identified.

It should be noted that the deployment of MIG-19 (FARMERS), MIG-21 (FISHBEDS) (vuegraph) L-0298 and SA-2 surface-to-air missiles (vuegraph) L-0299 has seriously restricted the flights of the U-2 in this area.

25X1A The Strategic Air Command is currently flying U-2 reconnaissance missions in Southeast Asia under the [redacted] program. (Vuegraph) L-0296 This vuegraph depicts the areas of Southeast Asia currently (December 1966) being covered by this photography.

The U-2 continues to be used in flying periodic photographic reconnaissance missions over Cuba. In addition, SAC employs the aircraft for high

25X1 altitude weather [redacted] flights.

Thus, the U-2 has and in some areas still is playing an important role in U.S. intelligence activities. Moreover, it ranks as a symbol of the high degree of technological competence of American industry and the ingenuity of our intelligence services.